

CLAIMS

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1. A fluid apparatus having a bellows, configured by a pump in which a bellows that has an extending and contracting portion configured by forming ridge-like folds and valley-like folds in a vertically alternate and continuous manner, and that is extendingly and contractingly deformable in an axial direction is placed in a pump body with setting an axis vertical to be driven to perform extending and contracting deformation, and form a liquid chamber inside said bellows, a suction port and a discharge port are formed in an inner bottom face of said pump body facing said liquid chamber, liquid is sucked from said suction port into said liquid chamber by extension of said bellows, and the liquid in said liquid chamber is discharged from said discharge port by contraction of said bellows, characterized in that

said extending and contracting portion of said bellows is formed into a shape in which a lower one of upper and lower lamella portions of each of said ridge-like folds is downward inclined as moving toward said axis, not only in an extending state but also in a contracting state.

2. A fluid apparatus having a bellows according to claim 1, wherein an inclination angle of said lower lamella portion in the contracting state of each of said ridge-like folds is set to 1 to 45°.

3. A fluid apparatus having a bellows according to claim 1,

wherein an inclination angle of said lower lamella portion in the contracting state of each of said ridge-like folds is set to 5 to 15°.

4. A fluid apparatus having a bellows, configured by an accumulator in which a bellows that has an extending and contracting portion configured by forming ridge-like folds and valley-like folds in a vertically alternate and continuous manner, and that is extendingly and contractingly deformable in an axial direction is placed in an accumulator body with setting an axis vertical to form a liquid chamber inside said bellows and an air chamber outside said bellows, an inflow port and an outflow port are formed in an inner bottom face of said accumulator body facing said liquid chamber, and a liquid pressure in said liquid chamber balances with an air pressure in said air chamber, characterized in that

said extending and contracting portion of said bellows is formed into a shape in which a lower one of upper and lower lamella portions of each of said ridge-like folds is downward inclined as moving toward said axis, not only in an extending state but also in a contracting state.

5. A fluid apparatus having a bellows according to claim 4, wherein an inclination angle of said lower lamella portion in the contracting state of each of said ridge-like folds is set to 1 to 45°.

6. A fluid apparatus having a bellows according to claim 4,

wherein an inclination angle of said lower lamella portion in the contracting state of each of said ridge-like folds is set to 5 to 15°.

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